

1631



1600

#20

## RAW SEQUENCE LISTING

DATE: 10/17/2002

PATENT APPLICATION: US/09/202,838A

TIME: 11:32:28

Input Set : A:\TSRI 0504.1.TXT

Output Set: N:\CRF4\10172002\I202838A.raw

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4 <110> APPLICANT: Verdaguer, Bertrand
5     de Kochko, Alexandre
6     Beachy, Roger N
7     Fauquet, Claude
9 <120> TITLE OF INVENTION: CASSAVA VEIN MOSAIC VIRUS PROMOTERS AND
10    USES THEREOF
12 <130> FILE REFERENCE: TSRI 0504.1
14 <140> CURRENT APPLICATION NUMBER: US 09/202,838A
15 <141> CURRENT FILING DATE: 2000-01-21
17 <150> PRIOR APPLICATION NUMBER: PCT/US97/10376
18 <151> PRIOR FILING DATE: 1997-06-20
20 <150> PRIOR APPLICATION NUMBER: US 60/020,129
21 <151> PRIOR FILING DATE: 1996-06-20
23 <160> NUMBER OF SEQ ID NOS: 37
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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28 <211> LENGTH: 392
29 <212> TYPE: DNA
30 <213> ORGANISM: Cassava vein mosaic virus
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34 atgtacagat acaagatcct atactgccag aatacgaaga agaatacgta gaaattgaaa 120
35 agaagaacc aggcgaagaa agaatcttg aagacgtaag cactgacgac aacaatgaaa 180
36 agaagaagat aagggtcggg attgtgaaa agacatagag gacacatgta aggtggaaaa 240
37 tgtaagggcg gaaagtaacc ttatcacaaa ggaatcttat ccccccactac ttatcctttt 300
38 atatttttcc gtgtcatatt tgcccttgag ttttcctata taaggaacca agttcggcat 360
39 ttgtgaaaac aagaaaaaat ttggtgtaag ct 392
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 524
43 <212> TYPE: DNA
44 <213> ORGANISM: Cassava vein mosaic virus
46 <400> SEQUENCE: 2
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48 tatggaagta ttatgtgagc tcagcaagaa gcagatcaat atgcggcaca tatgcaacct 120
49 atgttcaaaa atgaagaatg tacagataca agatcctata ctgccagaat acgaagaaga 180
50 atacgtagaa attgaaaaag aagaaccagg cgaagaaaag aatcttgaag acgtaagcac 240
51 tgacgacaac aatgaaaaga agaagataag gtcgggtgatt gtgaaagaga catagaggac 300
52 acatgtaagg tggaaaatgt aaggggcggaa agtaacctta tcacaaagga atcttatccc 360
53 ccaactactta tccttttata tttttccgtg tcattttttgc ccttgagttt tcctatataa 420
54 ggaaccaagt tcggcatttg tgaaaacaag aaaaaatttg gtgtaagcta ttttctttga 480
55 agtactgagg atacaagttc agagaaattt gtaagtttga attc 524
57 <210> SEQ ID NO: 3
58 <211> LENGTH: 524

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59 <212> TYPE: DNA
60 <213> ORGANISM: Cassava vein mosaic virus
62 <400> SEQUENCE: 3
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64 tatggaagta ttatgtgagc tcagcaagaa gcagatcaat atgcggcaca tatgcaacct 120
65 atgttcaaaa atgaagaatg tacagataca agatcctata ctgccagaat acgaagaaga 180
66 atacgtagaa attgaaaaag aagaaccagg cgaagaaaag aatcctgaag acgtaagcac 240
67 tgacgacaac aatgaaaaga agaagataag gtcggtgatt gtgaaagaga catagaggac 300
68 acatgtaagg tggaaaatgt aagggcggaa agtaacctta tcacaaagga atcttatccc 360
69 ccactactta tccttttata tttttccgtg tcatttttgc ccttgagttt tcctatataa 420
70 ggaaccaagt tcggcatttg tgaaaacaag aaaaaatttg gtgtaagcta ttttctttga 480
71 agtactgagg atacaagtgc agagaaattt gtaagtttga attc 524
73 <210> SEQ ID NO: 4
74 <211> LENGTH: 411
75 <212> TYPE: DNA
76 <213> ORGANISM: Cassava vein mosaic virus
78 <400> SEQUENCE: 4
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80 aagaagaata cgtagaaatt gaaaaagaag aaccaggcga agaaaagaat cttgaagacg 120
81 taagcactga cgacaacaat gaaaagaaga agataaggtc ggtgattgtg aaagagacat 180
82 agaggacaca tgtaagggtg aaaatgtaag ggcggaaagt aaccttatca caaaggaatc 240
83 ttatccccc aacttatccc ttttatattt ttccgtgtca tttttgccct tgagttttcc 300
84 tatataagga accaagttcg gcatttgtga aaacaagaaa aaatttggtg taagctatct 360
85 tctttgaagt actgaggata caagttcaga gaaatttgta agtttgaatt c 411
87 <210> SEQ ID NO: 5
88 <211> LENGTH: 305
89 <212> TYPE: DNA
90 <213> ORGANISM: Cassava vein mosaic virus
92 <400> SEQUENCE: 5
93 ggatcctgaa gacgtaagca ctgacgacaa caatgaaaag aagaagataa ggtcggtgat 60
94 tgtgaaaagag acatagagga cacatgtaag gtggaaaatg taagggcgga aagtaacctt 120
95 atcacaaaagg aatcttatcc ccactactt atccttttat atttttccgt gtcatttttg 180
96 cccttgagtt ttcttatata aggaaccaag ttccggcattt gtgaaaacaa gaaaaaattt 240
97 ggtgtaagct attttctttg aagtactgag gatacaagtt cagagaaatt tgtaagtttg 300
98 aattc 305
100 <210> SEQ ID NO: 6
101 <211> LENGTH: 261
102 <212> TYPE: DNA
103 <213> ORGANISM: Cassava vein mosaic virus
105 <400> SEQUENCE: 6
106 ggatccggtc ggtgattgtg aaagagacat agaggacaca tgtaagggtg aaaatgtaag 60
107 ggcggaaagt aaccttatca caaaggaatc ttatccccc aacttatccc ttttatattt 120
108 ttccgtgtca tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga 180
109 aaacaagaaa aaatttggtg taagctatct tctttgaagt actgaggata caagttcaga 240
110 gaaatttgta agtttgaatt c 261
112 <210> SEQ ID NO: 7
113 <211> LENGTH: 193
114 <212> TYPE: DNA
115 <213> ORGANISM: Cassava vein mosaic virus

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117 <400> SEQUENCE: 7
118 ggatccttat cacaaaggaa tcttatcccc cactacttat ccttttatat ttttccgtgt 60
119 catttttgcc cttgagtttt cctatataag gaaccaagtt cggcatttgt gaaaacaaga 120
120 aaaaatttg tgtaagctat tttctttgaa gtactgagga tacaagttca gagaaatttg 180
121 taagtttgaa ttc 193
123 <210> SEQ ID NO: 8
124 <211> LENGTH: 143
125 <212> TYPE: DNA
126 <213> ORGANISM: Cassava vein mosaic virus
128 <400> SEQUENCE: 8
129 ggatccgtgt catttttgcc cttgagtttt cctatataag gaaccaagtt cggcatttgt 60
130 gaaaacaaga aaaaatttg tgtaagctat tttctttgaa gtactgagga tacaagttca 120
131 gagaaatttg taagtttgaa ttc 143
133 <210> SEQ ID NO: 9
134 <211> LENGTH: 420
135 <212> TYPE: DNA
136 <213> ORGANISM: Cassava vein mosaic virus
138 <400> SEQUENCE: 9
139 tctagaccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
140 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatggatc 120
141 ctgaagacgt aagcactgac gacaacaatg aaaagaagaa gataaggtcg gtgattgtga 180
142 aaagagacata gaggacacat gtaagggtga aaatgtaagg gcggaaagta acctatcac 240
143 aaaggaatct tatccccac tacttatcct tttatatatt tccgtgtcat tttgcccctt 300
144 gagttttcct atataaggaa ccaagttcgg catttgtgaa aacaagaaaa aatttggtgt 360
145 aagctatatt ctttgaagta ctgaggatac aagttcagag aaatttgtaa gtttgaattc 420
148 <210> SEQ ID NO: 10
149 <211> LENGTH: 482
150 <212> TYPE: DNA
151 <213> ORGANISM: Cassava vein mosaic virus
153 <400> SEQUENCE: 10
154 tctagaccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
155 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
156 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
157 gaatacgtag aaattgaaaa agaagaacca ggcaagaaa aggatccggt cgggtgattgt 240
158 gaaagagaca tagaggacac atgtaagggt gaaaatgtaa gggcggaag taacctatc 300
159 acaaaggaat cttatcccc actacttate cttttatatt tttccgtgtc atttttgccc 360
160 ttgagttttc ctatataagg aaccaagttc ggcatttgtg aaaacaagaa aaaatttggt 420
161 gtaagctatt ttctttgaag tactgaggat acaagttcag agaaatttgt aagtttgaat 480
162 tc 482
164 <210> SEQ ID NO: 11
165 <211> LENGTH: 458
166 <212> TYPE: DNA
167 <213> ORGANISM: Cassava vein mosaic virus
169 <400> SEQUENCE: 11
170 tctagaccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
171 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
172 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
173 gaatacgtag aaattgaaaa agaagaacca ggcaagaaa agaattctga agacgtaagc 240
174 actgacgaca acaatgaaaa gaagaggatc cttatcacia aggaattcta tccccacta 300

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175 cttatccttt tatatctttt cgtgtcattt ttgcccttga gttttcctat ataaggaacc 360
176 aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctatcttct ttgaagtact 420
177 gaggatacaa gttcagagaa atttgtaagt ttgaattc 458
179 <210> SEQ ID NO: 12
180 <211> LENGTH: 468
181 <212> TYPE: DNA
182 <213> ORGANISM: Cassava vein mosaic virus
184 <400> SEQUENCE: 12
185 tctagaccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
186 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
187 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
188 gaatacgtag aaattgaaaa agaagaacca ggcaagaaa agaattctga agacgtaagc 240
189 actgacgaca acaatgaaaa gaagaagata aggtcggatc cttatcaca aggaattcta 300
190 tccccacta cttatccttt tatatctttt cgtgtcattt ttgcccttga gttttcctat 360
191 ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctatcttct 420
192 ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 468
194 <210> SEQ ID NO: 13
195 <211> LENGTH: 491
196 <212> TYPE: DNA
197 <213> ORGANISM: Cassava vein mosaic virus
199 <400> SEQUENCE: 13
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201 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
202 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
203 gaatacgtag aaattgaaaa agaagaacca ggcaagaaa agaattctga agacgtaagc 240
204 actgacgaca acaatgaaaa gaagaagata aggtcggatg ttgtgaaaga gacatagagg 300
205 atccttatca caaaggaatc ttatccccca ctacttatcc ttttatattt ttccgtgtca 360
206 tttttgccct tgagttttcc tatataagga accaagttcg gcattttgtga aaacaagaaa 420
207 aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga gaaatttgta 480
208 agtttgaatt c 491
210 <210> SEQ ID NO: 14
211 <211> LENGTH: 408
212 <212> TYPE: DNA
213 <213> ORGANISM: Cassava vein mosaic virus
215 <400> SEQUENCE: 14
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217 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
218 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
219 gaatacgtag aaattgaaaa agaagaacca ggcaagaaa agaattctga agacgtaagc 240
220 actgacgaca acaatgaaaa gaagaggatc cgtgtcattt ttgcccttga gttttcctat 300
221 ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctatcttct 360
222 ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 408
224 <210> SEQ ID NO: 15
225 <211> LENGTH: 418
226 <212> TYPE: DNA
227 <213> ORGANISM: Cassava vein mosaic virus
229 <400> SEQUENCE: 15
230 tctagaccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
231 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120

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232 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
233 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattcttga agacgtaagc 240
234 actgacgaca acaatgaaaa gaagaagata aggtcggatc cgtgtcattt ttgcccttga 300
235 gttttcctat ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa 360
236 gctattttct ttgaagtact gaggatacaa gttcagagaa atttgaagt ttgaattc 418
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239 <211> LENGTH: 441
240 <212> TYPE: DNA
241 <213> ORGANISM: Cassava vein mosaic virus
243 <400> SEQUENCE: 16
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245 actatggaag tattatgtga gtcagcaag aagcagatca atatgctgga catatgcaac 120
246 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
247 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattcttga agacgtaagc 240
248 actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
249 atccgtgtca tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga 360
250 aaacaagaaa aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga 420
251 gaaatttgta agtttgaatt c 441
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254 <211> LENGTH: 476
255 <212> TYPE: DNA
256 <213> ORGANISM: Cassava vein mosaic virus
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261 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
262 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattcttga agacgtaagc 240
263 actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
264 acacatgtaa ggtggaaaat gtaagggcgg aaaggatccg tgtcattttt gcccttgagt 360
265 tttcctatat aaggaaccaa gttcggcatt tgtgaaaaca agaaaaaatt tgggtgaagc 420
266 tattttcttt gaagtactga ggatacaagt tcagagaaat ttgtaagttt gaattc 476
268 <210> SEQ ID NO: 18
269 <211> LENGTH: 31
270 <212> TYPE: DNA
271 <213> ORGANISM: Artificial Sequence
273 <220> FEATURE:
274 <223> OTHER INFORMATION: Synthesized
276 <400> SEQUENCE: 18
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279 <210> SEQ ID NO: 19
280 <211> LENGTH: 30
281 <212> TYPE: DNA
282 <213> ORGANISM: Artificial Sequence
284 <220> FEATURE:
285 <223> OTHER INFORMATION: Synthesized
287 <400> SEQUENCE: 19
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290 <210> SEQ ID NO: 20
291 <211> LENGTH: 34

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**VERIFICATION SUMMARY**

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